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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/726,689	12/04/2003	Hidetaka Ohazama	107156-00215	5658

7590

09/22/2005

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EXAMINER

NGUYEN, DILINH P

ART UNIT

PAPER NUMBER

2814

DATE MAILED: 09/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

SP

Office Action Summary	Application No.	Applicant(s)	
	10/726,689	OHAZAMA, HIDETAKA	
	Examiner	Art Unit	
	DiLinh Nguyen	2814	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 July 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8-10 is/are allowed.
- 6) ☒ Claim(s) 1 and 5-7 is/are rejected.
- 7) ☒ Claim(s) 2-4 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>12/04/03</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Applicant's election of Group I, claims 1-10 in the reply filed on 7/21/05 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

2. Claims 1 and 5-7 are rejected under 35 U.S.C. 102(e) as being anticipated by Applicant Admitted Prior Art (figs. 1A-1B).

AAPA disclose an interconnection structure of conductive wirings for interconnecting a pair of interconnection objects by a thermocompression bonding, in which the conductive wirings are disposed on the interconnection objects, respectively, comprising:

interconnection portions 122 and 132 formed of conductive wiring patterns on a surface of each supporting body 121 and 131 of said interconnection objects, said interconnection portions being provided with gaps between adjacent ones;

an anisotropic conductive film 140 containing conductive particles 142 therein, said film being interposed between said interconnection portions 122 and 132 disposed on the respective interconnection objects; and

an accumulating space formed in said respective gaps between said conductive wiring patterns in order to prevent an over-density of the conductive particles 142 flown out from the interconnection portions to the gaps due to the thermocompression bonding from occurring (figs. 1A-1B).

- Regarding claim 5, AAPA discloses that wherein one of said pair of interconnection objects is a print wiring board or a TAB tape (figs. 1A-1B, page 1).
- Regarding claims 6-7, AAPA discloses that wherein another one of said pair of interconnection objects is an interconnection portion of a display panel board and wherein said display panel board is a panel board formed of organic EL elements. (figs. 1A-1B, page 1).

Allowable Subject Matter

Claims 2-4 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art of record fail to disclose the combination of a semiconductor structure recited in the base claim 1, including the combination of the structure comprising: the accumulating space comprises a concave portion or a hole portion formed on at least one of said supporting bodies of said interconnection objects (claim 2); the insulating layers cover said supporting body of one or both of said

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interconnection objects except for said interconnection portion, and wherein said accumulating space comprises retreated concave portion formed at an edge of said insulating layer adjacent to said interconnection portion (claim 3); and an insulating layers, wherein said insulating layers cover said supporting body of one or both of said interconnection objects except for said interconnection portion, and wherein edges of said insulating layers adjacent to said interconnection portions are included in a region of said thermocompression bonding (claim 4).

Claims 8-10 are allowed.

The following is an examiner's statement of reasons for allowance:

The prior art of record fail to disclose the combination of a semiconductor device structure, including the combination of the structure comprising: a concave portion formed in respective gaps between said conductive wiring patterns on said substrate, wherein said concave portion receives conductive particles flown out from said anisotropic conductive film due to the thermocompression bonding (claim 8); a hole portion formed by penetrating said substrate in respective gaps between said conductive wiring patterns on said substrate, wherein said hole portion receives conductive particles flown out from said anisotropic conductive film due to the thermocompression bonding (claim 9); and insulating layers covered on said surface except for said interconnection portions; and a retreated concave portion formed at each edge of said insulating layers adjacent to said interconnection portions, wherein said retreated concave portion receives conductive particles flown out from said anisotropic conductive film due to the thermocompression bonding (claim 10).

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DiLinh Nguyen whose telephone number is (571) 272-1712. The examiner can normally be reached on 8:00AM - 6:00PM (M-F).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael Fahmy can be reached on (571) 272-1705. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DLN


HOAI PHAM
PRIMARY EXAMINER